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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,236	10/19/2001	Eric Gaussier	07447.0061 (XeroxRef.No.	7611

7590 12/21/2005
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EXAMINER

NGUYEN, CAM LINH T

ART UNIT PAPER NUMBER

2161

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,236

Applicant(s)

GAUSSIER ET AL.

Examiner

CamLinh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/22/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is response to communication filed on 11/22/2005.
2. In view of the Pre - Appeal Brief filed on 11/22/2005, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 8, 10, 12 – 16, 20 – 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Francis et al (U.S. 5,761,418) in view of Aoki et al (U.S. 6,078,913) of record.

♦ As per claim 1, 8, 10, 12 – 16, 20 – 23,

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Francis et al (U.S. 5,761,418) discloses a method for clustering a plurality of documents (See Fig. 1, documents a – k, col. 9, lines 1 – 6) comprised of a plurality of clusters (see Fig. 1, clusters A – C), wherein each document includes a plurality of words (col. 7, lines 15 – 16), the method comprising:

- “Accessing the document collection” See Fig. 2, fig. 15, element 1540, col. 8, lines 13 – 25.
- “Performing a clustering process that creates a hierarchy of clusters that reflects a segregation of the documents in the collection based on the words included in the documents” See Fig. 1, col. 7, lines 4 – 31. The resources are linked to each other by a path or links. In other words, the first resource links to second, and the second resource can link to third resource by its terms as shown in Fig. 5. The Fig. 5 shows searching branching out within the clusters (col. 13, lines 45 – 51). Clearly, this is a hierarchical structure of the clusters.
- “Wherein any document in the collection may be assigned to a first cluster in the hierarchy based on a first segment of the respective document, and the respective document may be assigned to a second cluster in the hierarchy based on a second segment of the respective document” See Fig. 1, col. 6, lines 59 – 62, col. 7, lines 10 – 12.
- “Wherein the first and second clusters are associated with different paths of the hierarchy” See Fig. 5.
- “Storing a representation of the hierarchy of clusters in a memory” See Fig. 15, col. 8, lines 13 – 25.

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- “ Making the representation available to an entity in response to a request associated with the document collection” See Fig. 4, 6, col. 5, lines 42 – 53.

Francis does not clearly teach that the clusters are associated with different paths of the hierarchy or the plurality of clusters hierarchical organized, wherein each document includes a plurality of words and is represented as a set of (document, word) pairs.

However, Aoki, on the other hand, discloses a document retrieval apparatus comprising a cluster database storing a cluster of node information elements linked for clustering the documents to a hierarchical tree structure based on degree of similarity in all of the documents (see the Abstract of Aoki). Aoki also teaches that the each node in the tree comprises node information and document index information (See Fig. 2 of aoki). The keywords in the documents are represented in the frequency table as are associated with the document in the database. Therefore, the document is represented as a set of (document, word) pairs.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to apply the teaching of Aoki into the system of Francis because the combination would provide the user the most accuracy result search in a short time by linking the most similar document closely while keeping a form of the cluster when an individual document of the cluster is updated (col. 4, lines 42 – 45, col. 9, lines 45 - 50 of Aoki).

5. Claims 2 – 7, 9, 11, 17 - 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Francis et al (U.S. 5,761,418) in view of Aoki et al (U.S. 6,078,913) as applied to claims above, further in view of Agrawal et al (U.S. 6,233,575).

♦ As per claims 2, 9, 11, 17 - 18,

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Francis/Aoki discloses a method for clustering a plurality of documents based on keywords.

Francis/Aoki does not clearly disclose that setting a probability parameter to an initial value, and assign documents to a cluster based on the value.

However, Agrawal, on the other hand, discloses a multilevel taxonomy based on features derived from documents classification using fisher values as discrimination value (see the title). Agrawal teaches that the clusters can be regarded as classes (col. 7, lines 64). As shown in Fig. 2 of Agrawal, there are plurality of classes represented by nodes (col. 10, lines 59 – 65). Documents are classified to nodes by calculating the statistics of the terms in the documents (col. 10, lines 66 – col. 11, lines 2). Classification of a document starts at the taxonomy root by assigning a score to each child of the root. (Col. 14, lines 50 – 53). Therefore,

- “A first class” corresponds to the root.
- Each node or sub node corresponds to a parameter with a certain value.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to apply the teaching of Agrawal into the system of Francis/Aoki because the combination would provide a scalable, efficient, reliable, and semi automatic organization and reorganization of a database (col. 4, lines 30 – 34, Agrawal).

◆ As per claims 3, 19, Francis/Aoki/Agrawal disclose:

- “Determining whether the first class has split into two child classes” See Fig. 2, element 22 (first class), element 24 – 28 (child classes) (col. 9, lines 50 – 67, Agrawal).

◆ As per claim 4, Francis/Aoki/Agrawal disclose:

- “Repeating the step of determining for each document in the collection” See Fig. 4, col. 18, lines 17 – 20, Agrawal.

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◆ As per claims 5 – 7, Francis/Aoki/Agrawal disclose:

- “Performing the clustering process” col. 14, lines 33 – col. 18, lines 27, Agrawal.

◆ As per claims 24 - 25, Francis/Aoki/Agrawal disclose:

- “Wherein the representation defines the probability of a document as the product of the probability of the (document, word) pairs it contains” (See Fig. 2 and associated texts of Aoki).

◆ As per claim 26, Francis/Aoki/Agrawal disclose:

- The form of probability model (See claim 8 of Aoki).

Response to Arguments

6. Applicant's arguments filed 11/22/05 have been fully considered but they are not persuasive.

7. In response to applicant's argument that Francis reference teach away from the invention and there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, the Francis reference is not really complete silent on teaching the structure of the cluster in a hierarchical order. Francis teaches that it is well known in the art that the resources usually are organized in a hierarchical order (col. 2, lines 56 – 61). In addition, Fig. 5 also is an

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example of hierarchical structure. Fig. 1, col. 7, lines 4 – 31, The resources are linked to each other by a path or links. In other words, the first resource links to second, and the second resource can link to third resource by its terms as shown in Fig. 5. The Fig. 5 shows searching branching out within the clusters (col. 13, lines 45 – 51). Clearly, this is a hierarchical structure of the clusters.

The Examiner does not apply Aoki reference for the hierarchical structure of clustered documents entirely, but apply the teaching of document word pair as claimed in the instant application. Aoki also teaches that the each node in the tree comprises node information and document index information (See Fig. 2 of aoki). The keywords in the documents are represented in the frequency table as are associated with the document in the database. Therefore, the document is represented as a set of (document, word) pairs. The Aoki reference provides the teaching of hierarchical structure of clustered documents. Both, the Francis and Aoki references are in the same field of applicant's endeavor (clustering documents and hierarchical structure). Therefore, Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Reference is made to MPEP 2144.01 - Implicit Disclosure

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“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)

Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference (s) applied and cited. It is logical for the examiner to focus on the limitations that are “crux of the invention” and not involve a lot of energy and time for the things that are not central to the invention, but peripheral. The examiner is aware of the duties to address each and every element of claims, however, it is also important that a person prosecuting a patent application before the Office or an stakeholders of patent granting process make effort to understand the level of one of ordinary skill in the (data processing) art or the level one of skilled in the (data processing) art, as encompassed by the applied and cited references. The administrative convenience derived from such a cooperation between the attorneys and examiners benefits the Office as well the patentee.

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Action.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CamLinh Nguyen whose telephone number is (571) 272-4024. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571 – 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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